



Melodea
RECYCLABLE PACKAGING SOLUTIONS



ENHANCED BARRIER TECHNOLOGY - FOR THE **PAPER** PACKAGING INDUSTRY

Melodea Offers Groundbreaking, Innovative Packaging Solutions That Enable Paperization Without Compromising Shelf Life or Sustainability.

Our Advanced Barrier Technology is Recyclable and Repulpable.

This Easy-to-Apply Alternative Allows Manufacturers to Move Beyond Traditional Non-Recyclable Materials Such as Co-Extruded Polyolefin Films, Multi-Material Packages, Laminated Paper, EVOH, Polyamide, AlOx, and SiOx.

MELOX NGEN AND VBSEAL: ADVANCED BARRIER TECHNOLOGY



Transparent, water-based barrier coatings for recyclable paper packaging



Certified for recyclability and repulpability in paper stream



Precision-engineered barrier: minimal thickness, maximum protection:

- Ultra-high oxygen barrier $< 0.5 \text{ cc}/(\text{m}^2 \cdot \text{day})$ at 50% RH
- High water vapor barrier $< 2 \text{ cc}/(\text{m}^2 \cdot \text{day})$ at 50% RH and $< 15 \text{ cc}/(\text{m}^2 \cdot \text{day})$ at 90% RH
- Ultimate oil and grease barrier
- Aroma barrier
- Heat sealing capabilities



Universal packaging compatibility includes pouches, bags, liners, and lidding.



FDA and BfR approved for food contact



Free of harmful substances, such as PFAS, Bisphenol A, and phthalates



Ideal for dry foods, snacks, fast food, wraps, detergents, fresh foods, and more

OUR SOLUTIONS: INCREASES VALUE IN PAPERIZATION

Industry Challenges

- × Non-recyclable, multilayered, and complex paper and film structures
- × Regulations and taxes on unsustainable packaging
- × Brands' sustainability goals remain unmet
- × Insufficient barrier technologies impact shelf life
- × Compatibility issues between different barrier coating modalities like oxygen and moisture

Melodea's Advantages

- ✓ Advanced barrier technology that synergizes oxygen and moisture protection.
- ✓ Meet sustainability goals
- ✓ Longer shelf life than other paper alternatives
- ✓ Streamline supply chain processes
- ✓ Replace non-recyclable co-extruded materials like polyolefin films, multi-material packages, laminated paper, EVOH, polyamide, AlOx, and SiOx
- ✓ Decrease or eliminate plastic content
- ✓ In-depth knowledge of various paper types and their applications
- ✓ A fully recyclable and repulpable packaging solution



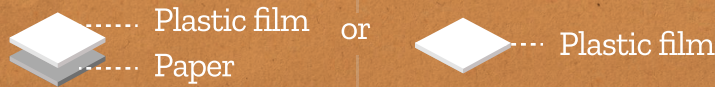
STRUCTURES

HIGH WATER VAPOR, OIL & GREASE BARRIER PAPER

NEW STRUCTURE



OLD



High water vapor barrier $< 2 \text{ cc}/(\text{m}^2 \cdot \text{day})$ at 50% RH and $< 15 \text{ cc}/(\text{m}^2 \cdot \text{day})$ at 90% RH

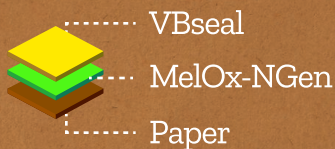
Ultimate oil and grease barrier

Aroma barrier

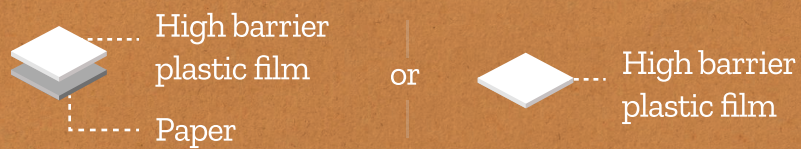
Heat sealing capabilities

HIGH BARRIER PAPER

NEW STRUCTURE



OLD



Ultra-high oxygen barrier $< 0.5 \text{ cc}/(\text{m}^2 \cdot \text{day})$ at 50% RH

High water vapor barrier $< 2 \text{ cc}/(\text{m}^2 \cdot \text{day})$ at 50% RH and $< 15 \text{ cc}/(\text{m}^2 \cdot \text{day})$ at 90% RH

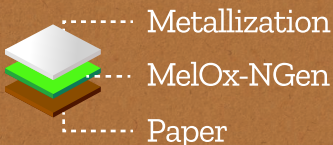
Ultimate oil and grease barrier,

Aroma barrier

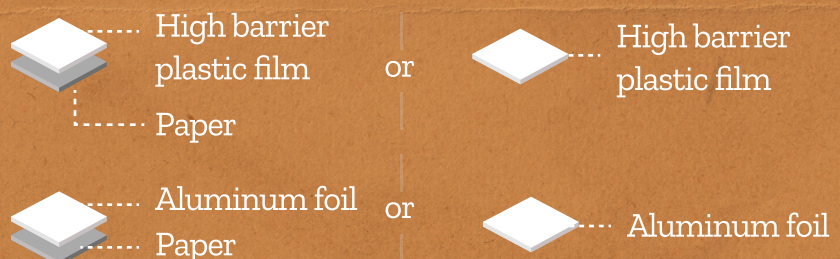
Heat sealing capabilities

ULTRA-HIGH BARRIER PAPER

NEW STRUCTURE



OLD



Ultra-high oxygen barrier $< 0.5 \text{ cc}/(\text{m}^2 \cdot \text{day})$ at 50% RH

Ultra-High water vapor barrier $< 5 \text{ cc}/(\text{m}^2 \cdot \text{day})$ at 90% RH

Ultimate oil and grease barrier

Aroma barrier

MelOx NGen optimizes metallization process on paper

IMPLEMENTATION



Printed effectively using widely available equipment such as gravure machines, slot dies, curtain coating, and more



Print-ready using solvent-based inks and ready for lamination with standard adhesives



Compatible with pouch-making machinery



Expert technical support is available throughout the implementation process



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